LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SPECIFICATIONS

TRAFFIC CONTROL SIGNS

DESCRIPTION

This specification sets forth the material and production requirements for finished traffic control signs.

SIGN BLANKS

Aluminum blanks must be either Aluminum Alloy 6061-T6 or 5052-H38 and comply with ASTM B209. Blanks shall have a thickness of 0.080 inches with a chromate conversion coating that meets the requirements of ASTM B449 or ASTM B921 Class I or II. After fabrication, the blank shall have a flatness equal to or less than 0.031 inches per foot of length and 0.004 inches per inch of width. Blanks shall be free from grease, dirt and/or loose phosphate coating and all burrs shall be removed from the edges.

Blanks shall be cut and punched in accordance with the charts provided in **Figures 1** through **14**.

SHEETING MATERIALS

Sheeting shall be a Type IV, VII, or XI retroreflective sheeting that is an unmetalized microprismatic retroreflecive element material. Sheeting shall conform to ASTM D4956, except as modified herein, with a Class 1 (pressure sensitive) adhesive as specified in ASTM D4956.

Fluorescent Orange sheeting must be an approved product listed on the Approved Materials List (AML) 1015M00090 Reflective Sheeting, Type IV, Temporary Signs, Barricades, and Channelizing Devices (ReflectSheet, T IV,TempSign,Barr,ChanDev).

All sheeting colors, except for Fluorescent Orange, shall be an approved product listed on the Approved Materials List (AML) 1015M00139 for Reflective Sheeting, Type IV, Permanent, 1015M00139 Reflective Sheeting, Type VIII, Permanent, or 1015M00241 Reflective Sheeting, Type XI, Permanent.

The sheeting, when processed, applied and cleaned in accordance with the manufacturer's recommendations shall perform in accordance with Table 1015-4.

Table 1015-4
Accelerated Weathering Standards[1]

Type	Retroreflectivity[2]				Colorfastness[3]	
	Orange/ Fluorescent Orange		All colors, except Orange/ Fluorescent Orange		Orange/ Fluorescent Orange	All colors, except Orange/ Fluorescent Orange
IV, VIII and Type XI	1 year	80[4]	3 years	80[4]	1 year	3 years

[1]At an angle of 45° from the horizontal and facing south in accordance with ASTM G7 at an approved test facility in Louisiana or South Florida.

[2]Percent retained retroreflectivity of referenced table after the outdoor test exposure time specified.

[3]Colors shall conform to the color specification limits of ASTM D 4956 after the outdoor test exposure time specified.

[4]ASTM D4956, Tables 5, 8, and 10

Sheeting is also required to perform outdoors in accordance with the performance standards in Table 1015-5.

Table 1015-5
Reflective Sheeting Performance Standards

Type	Retroreflectivity[1] -- Durability[2]				Colorfastness[3]
	Orange/ Fluorescent Orange		All colors, except orange/Fluorescent Orange		
IV, VIII and Type XI	3 years	80[4]	10 years	80[4]	3 years

[1]Percent retained retroreflectivity of referenced table after installation and the field exposure time specified.

[2]All sheeting shall maintain its structural integrity, adhesion and functionality after installation and the field exposure time specified.

[3]All colors shall conform to the color specification limits of ASTM D 4956 after installation and the field exposure time specified.

[4] ASTM D4956, Tables 5, 8, and 10

FINISHED SIGN GUARANTY

If the retroreflective sheeting used to manufacture the finished signs fails to comply with the requirements of this specification within the periods noted below, the Contractor agrees to replace the defective signs with new finished signs at no cost to the Department. Replacement signs shall carry the unexpired guaranty

of the sign for which it replaces. Guaranty shall begin on the date of delivery and apply if failure occurs within:

- Three (3) years for all orange and fluorescent orange sheeting
- Ten (10) years for all sheeting colors except orange and fluorescent orange

SIGN IDENTIFICATION MARKINGS

Sign Face (Front) Markings: All sign faces, except for object markers, shall be labeled in the lower right corner of the sign face with ¼ inch screened lettering and include the following information:

- Size of the Sign
- Vendor Logo, Name, or Initials
- Year of Manufacture

See **Figure 15** for additional placement details.

Back of Sign Markings: All sign backs, including object markers, shall be labeled with ¾ inch in black vinyl lettering. Lettering should be placed in the lower right corner of the back of the sign and include the following information:

- Sheeting Material ID
- Size of the Sign
- Year of Manufacture

See **Figure 16** for additional placement details.

PACKAGING

Orders shall be for a minimum of 1,000 pounds.

Finished signs shall be packaged face to face in bundles of two (2) of the same sign. To prevent damage during shipment, each sign face shall be covered with slip sheeting and double taped on the center of two (2) opposite sides. Contractor shall be aware of and act on any additional packaging requirements noted by the sheeting manufacturer.

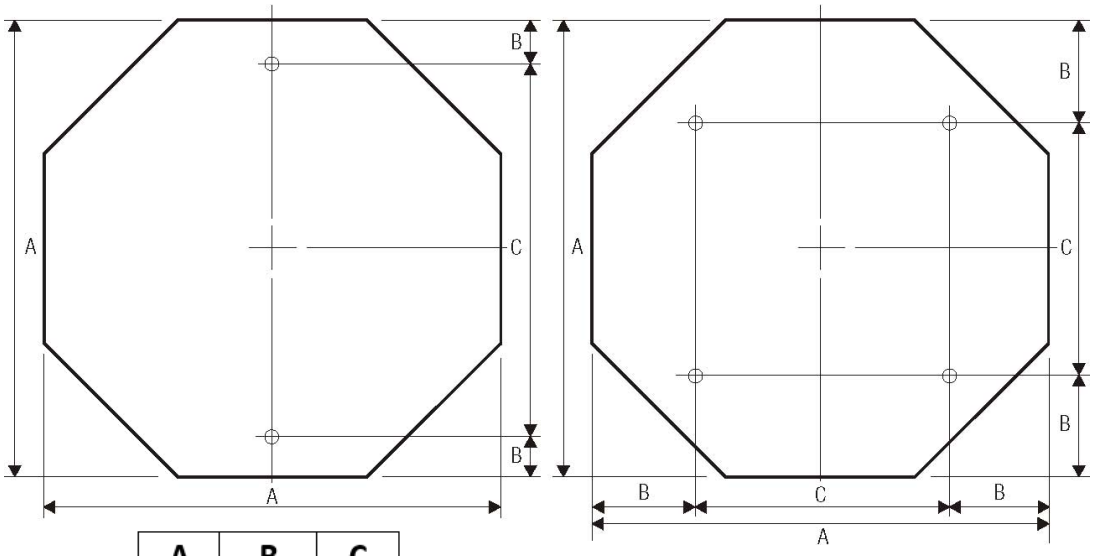
Signs shall be bundled, securely banded to pallets and covered in cardboard for delivery via flatbed trailer. Pallets must be covered with a tarp during transport. Individual pallets shall not exceed 2,000 pounds and must be labeled externally with the associated Purchase Order No., sign code(s), sign size(s) and quantity of each type of sign included on the pallet.

Each shipment should be supplied with a freight bill and packaging list noting the Purchase Order No. and the quantity shipped.

Failure to adhere to packaging and shipment directives will result in rejection of the order and materials will be returned “FREIGHT COLLECT” to the vendor.

SIGN BLANK DIMENSION AND HOLE PLACEMENT CHARTS

Figure 1 – Octagons

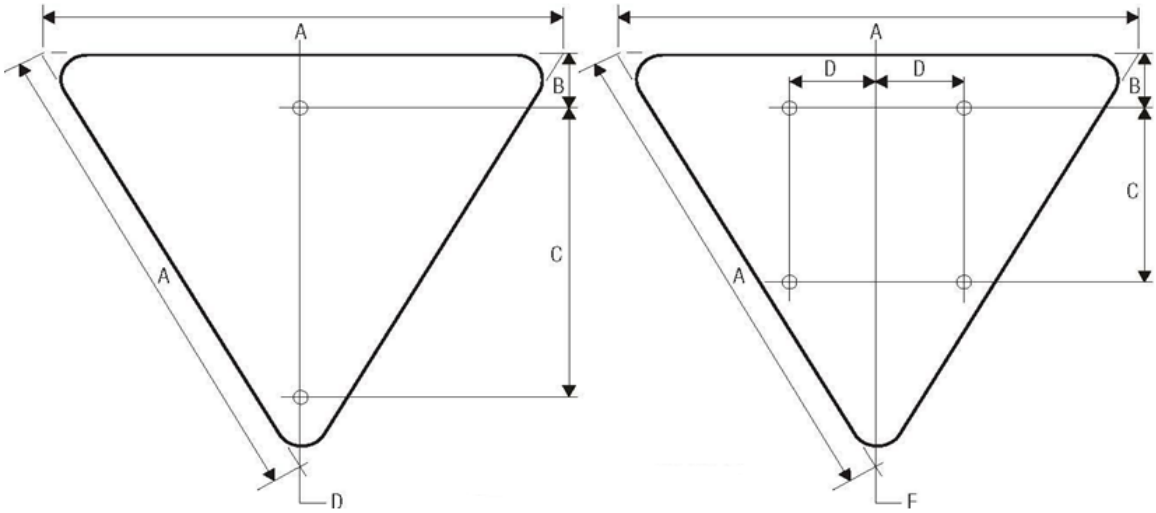


A	B	C
24	3	18
30	3	24
36	3	30

A	B	C
48	9	30

Column A = Blank Dimensions

Figure 2 – Equilateral Triangles

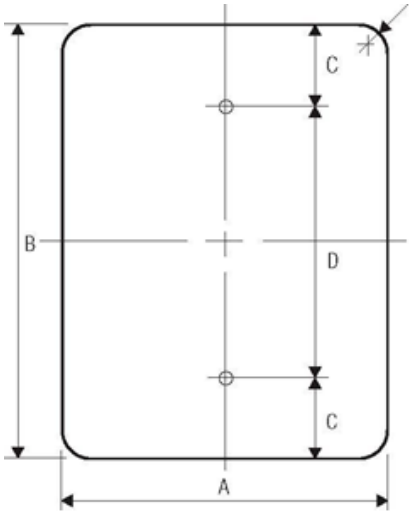


A	B	C	D
30	3	18	1.5
36	3	21	2

A	B	C	D	E
48	3	12	12	3
60	3	18	15	4

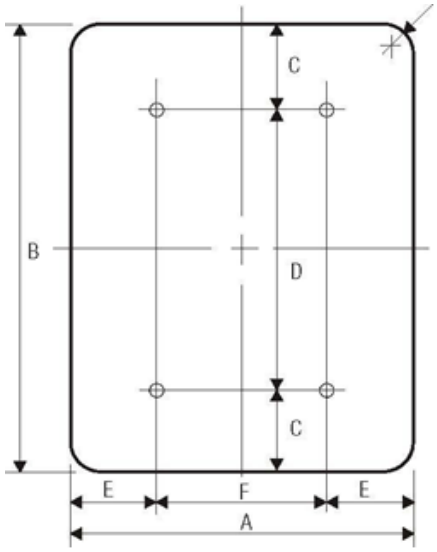
Column A = Blank Dimensions

Figure 3 – Vertical Rectangle



A	B	C	D	E
6	12	1.5	9	1.5
9	12	1.5	9	1.5
10	18	1.5	15	1.5
10	27	3	21	1.5
10	36	6	24	1.875
10	48	6	36	2.25
12	18	1.5	15	1.5
12	36	6	24	1.875
12	48	6	36	2.25
12	60	6	48	3
18	24	3	18	1.5
18	54	6	42	2.25
18	60	6	48	3
24	30	3	24	1.5
24	36	6	24	1.875
30	36	6	24	1.875
36	48	6	36	2.25

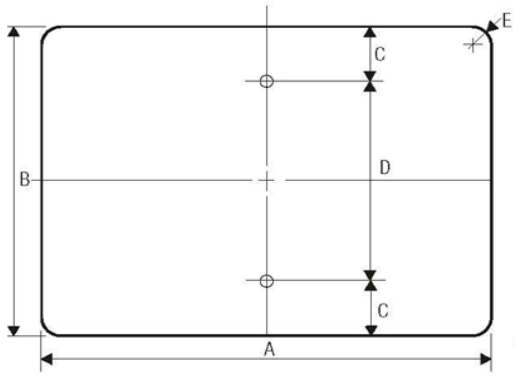
Columns A & B = Blank Dimensions



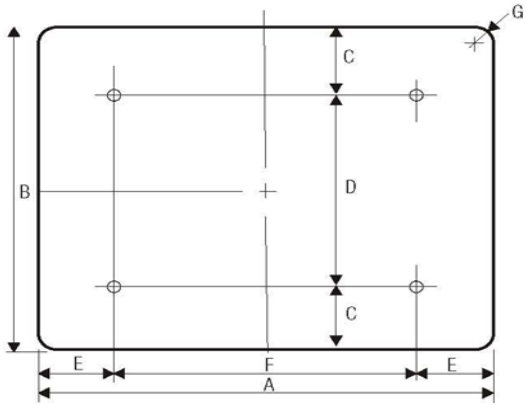
A	B	C	D	E	F	G
48	60	6	48	9	30	3

Columns A & B = Blank Dimensions

Figure 4 – Horizontal Rectangle



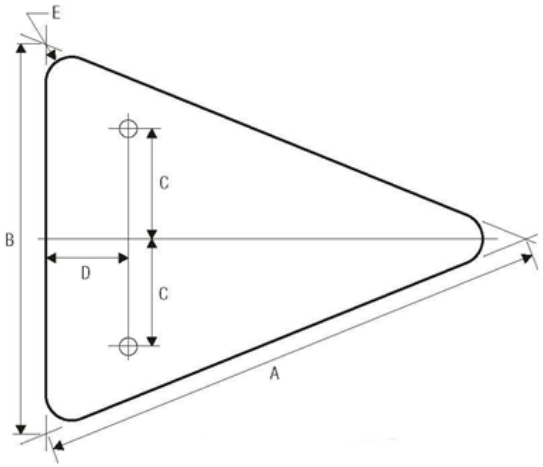
A	B	C	D	E
21	15	1.5	12	1.5
24	8	1.5	5	1.5
24	10	1.5	7	1.5
24	12	1.5	9	1.5
24	18	3	12	1.5
30	15	1.5	12	1.5
30	18	3	12	1.5
30	21	3	15	1.5
30	24	3	18	1.5
36	12	1.5	9	1.5
36	18	3	12	1.5
36	24	3	18	1.5



A	B	C	D	E	F	G
42	30	3	24	9	24	2.25
45	36	6	24	9	27	2.25
48	18	3	12	9	30	1.5
48	24	3	18	9	30	1.875
48	30	3	24	9	30	2.25
48	36	6	24	9	30	2.25
54	18	3	12	9	36	1.5
60	24	3	18	12	36	1.5
60	30	3	24	12	36	2.25
60	36	6	24	12	36	2.25

Columns A & B = Blank Dimensions

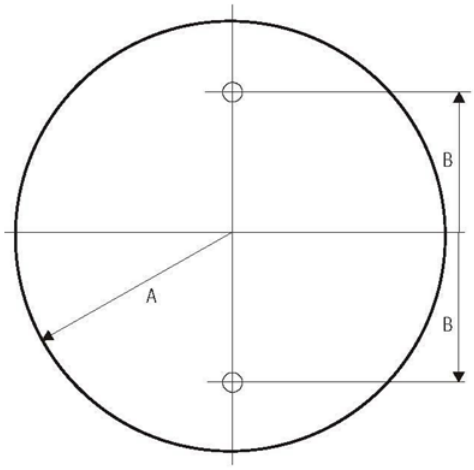
Figure 5 – Isosceles Triangle



A	B	C	D	E
40	30	7.5	12	1.875
48	36	9	15	2.25

Columns A & B = Blank Dimensions

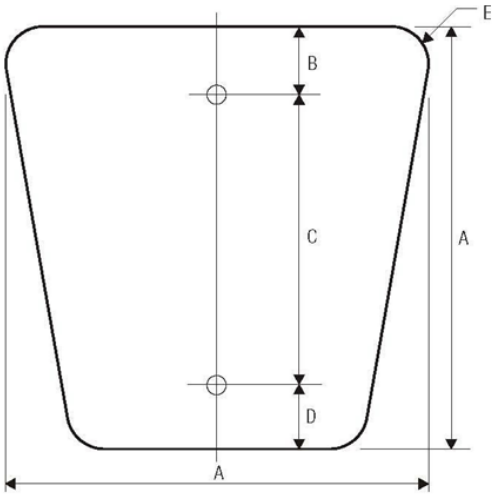
Figure 6 - Circle



A	B	C
15	12	30
18	15	36

Column C = Blank Dimensions

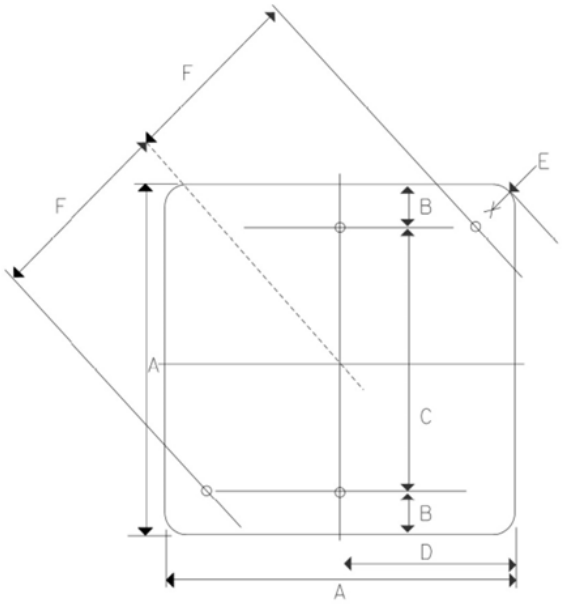
Figure 7 – National Forest Shield



A	B	C	D	E
18	2	15	1	2
24	2.5	20	1.5	2.5

Column A = Blank Dimensions

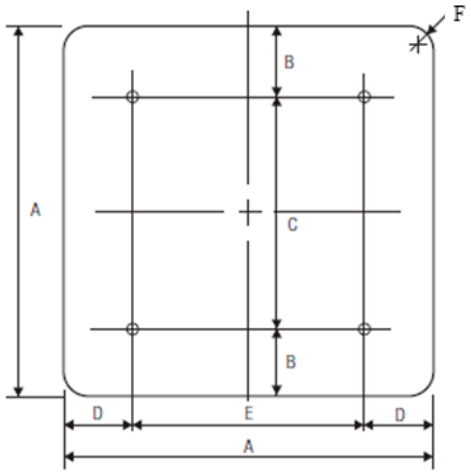
Figure 8 – Square/Diamond (Single Post)



A	B	C	D	E	F
18	3	12	9	1.5	9
24	3	18	12	1.5	12
30	3	24	15	1.875	15
36	6	24	18	2.25	18
48	**6**	**36**	**24**	**3**	**24**

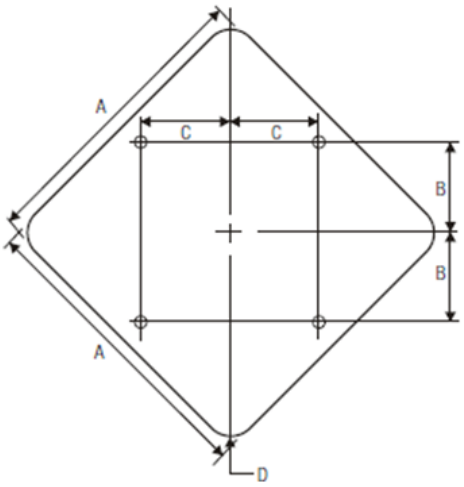
Column A = Blank Dimensions

Figure 9 – Square (Two Post)



A	B	C	D	E	F
36	6	24	6	24	2.25
48	6	36	9	30	3

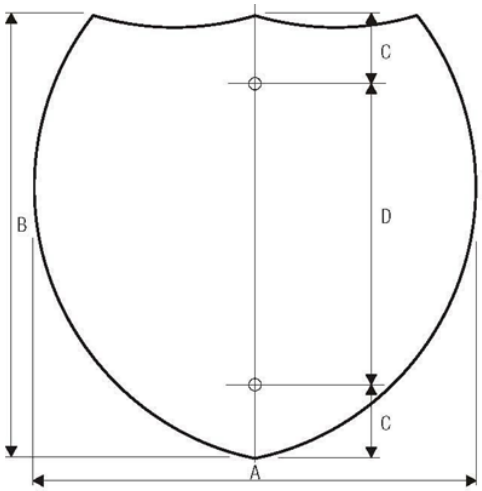
Figure 10 – Diamond (Two Post



A	B	C	D
48	15	15	3
60	18	18	3.75

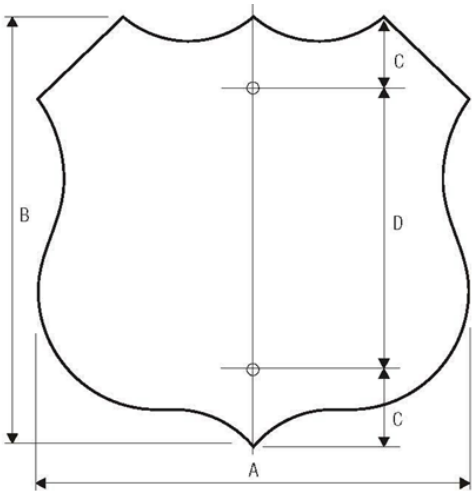
Columns A & B = Blank Dimensions

Figure 11 – Interstate Shield



A	B	C	D
24	24	3	18
30	24	3	18
36	36	6	24
45	36	6	24

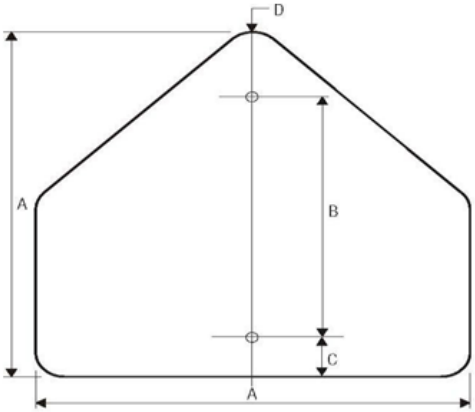
Figure 12 – U.S. Shield



A	B	C	D
24	24	3	18
30	24	3	18
36	36	6	24
45	36	6	24

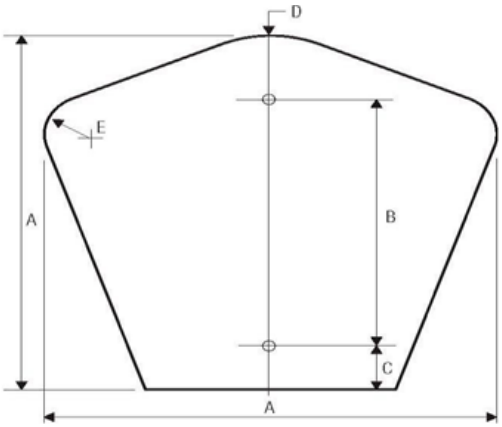
Columns A & B = Blank Dimensions

Figure 13 – Pentagon (School)



A	B	C	D
30	21	3	1.875
36	24	3	2.25

Figure 14 – Parish Shield



A	B	C	D	E
18	15	1	5	2
24	18	2	5.313	2.688
30	24	2	6.625	3.375

Columns A & B = Blank Dimensions

SIGN IDENTIFICATION PLACEMENT DETAILS

Figure 15 – Front or Sign Face

Figure 16 – Back of Sign